

IN THE CLAIMS:

The following is a current listing of claims and will replace all prior versions and listings of claims in the application. Please amend the claims as follows:

1. (Currently Amended) In an environmentally hardened ~~Ethernet~~ network, a system an apparatus for conveying data signals comprising:

a cable ~~for carrying~~ configured to carry data in a first section and power in a second section parallel to the first section; and

first end connectors for the cable terminating both the ~~that~~ terminate a first end of the first section and a first end of the second section, the first end connectors configured to maintain adequate physical and electrical contact with a first node of said network over a range of operationally harsh environmental conditions, wherein ~~each the first node network equipment~~ is coupled to receive said data and said power via said first end connectors.

2. (Currently Amended) The system apparatus according to claim 1 wherein said ~~power~~ second section includes wiring of a gauge to support current sufficient to supply a plurality of nodes of the network including the first node ~~all network equipment from a central source to each end user in a cabling run.~~

3. (Currently Amended) The system apparatus according to claim 2 wherein said ~~data~~ first section of said cable ~~further~~ includes a plurality of unshielded twisted-wire pairs configured to carry said data ~~UTP wiring pairs.~~

4. (Currently Amended) The system apparatus according to claim 3 wherein said ~~data~~ first section of said cable further includes an insulating sheath surrounding ~~protective gel sheathing of~~ said unshielded twisted-wire pairs ~~UTP pairs.~~

5. (Currently Amended) The system apparatus according to claim 4 further including a foil sheathing around ~~the~~ said first section and said second section and a drain wire juxtaposed to said foil sheathing and disposed parallel to said first section and said second section.

6. (Currently Amended) The system apparatus according to claim 5 further including a suspension line bound to said cable and configured to provide ~~for~~ stress relief ~~of~~ for said cable.

7. (Currently Amended) The system apparatus according to claim 4 further including:
a ~~hollow~~ conduit that permits installation of optical fiber within the conduit before or after installation of the cable; and
a sheath enclosing said conduit, ~~together with~~ said first section, and said second section.
8. (Currently Amended) The system apparatus according to claim 7 wherein said ~~hollow~~ conduit is of a pliant material having walls of sufficient rigidity to be self supporting without collapsing.
9. (Currently Amended) The system apparatus according to claim 3 further including:
~~high performance~~ physical layer transceivers and one or more clocks at the first node each network equipment, wherein the one or more clocks are configured to clock the physical layer transceivers each being clocked at rates [[a]] substantially lower [[rate]] than the rate given by a design specification for the physical layer transceivers ~~operational distance between network elements~~.
10. (Currently Amended) The system apparatus according to claim 9 wherein said transceivers are configured to operate over said unshielded twisted-wire pairs ~~UTP wiring pairs~~ in full duplex switched packet transmission mode ~~between network elements in order to extend data rate capacity~~.
11. (Currently Amended) The system apparatus according to claim 10 further comprising a switch coupled between said transceivers, wherein the switch is configured to support trunking of two or more of said unshielded twisted-wire pairs ~~wherein a plurality of UTP pairs support simultaneous transmission in a common direction~~.
12. (Currently Amended) The system apparatus according to claim 3 further including:
~~high performance~~ physical layer transceivers at the first node each network equipment wherein said transceivers are configured to operate over said unshielded twisted-wire pairs ~~UTP wiring pairs~~ in full duplex switched packet transmission mode ~~between network elements in order to extend operational distance between network elements~~.
13. (Canceled)

14. (Currently Amended) The ~~system apparatus~~ according to claim 13 wherein the first end connectors contain ~~within the contact areas~~ a protective contact dielectric gel within contact areas of the first end connectors.

15-16. (Canceled)

17. (New) A cable, comprising:

a first section including at least four unshielded twisted-wire pairs configured to carry data;
a second section including at least a pair of insulated wires configured to carry power; and
a weather-resistant outer sheath surrounding at least the first section and the second section.

18. (New) The cable of claim 17 further comprising:

a tube configured to permit installation of an optical fiber in the tube before or after installation of the cable, wherein the tube is also surrounded by the outer sheath.

19. (New) The cable of claim 18, wherein the tube includes a messenger wire to support installation of the optical fiber.

20. (New) The cable of claim 17, wherein the second section also includes a ground return line.

21. (New) The cable of claim 17 further comprising:

a foil shield surrounding the first section and the second section but within the outer sheath; and

a drain wire.

22. (New) The cable of claim 17 further comprising a removable strain cable.

23. (New) A network comprising:

a first node including a data connector and a power connector;

a cable including:

a first portion configured to carry data, wherein the first portion includes at least four

unshielded twisted pairs of wires (UTPs);

a second portion configured to carry power, wherein the second portion includes at least two insulated wires;

a weather resistant outer sheath surrounding at least the first and second portions;

a first connector that terminates the first portion and a second connector that terminates the second portion;

wherein the first connector is coupled to the data connector, wherein the second connector is coupled to the power connector.

24. (New) The network of claim 23, wherein the first node includes a first pair of physical layer transceivers configured to send and receive portions of said data over the UTPs.

25. (New) The network of claim 24, wherein the first node also includes a switch circuit and a plurality of pairs of physical layer transceivers including said first pair, wherein the switch is configured to selectively connect different ones of said pairs.

26. (New) The network of claim 23, wherein the first node includes a router.

27. (New) The network of claim 23, wherein the first node includes a power supply configured to provide said power for the second portion of the cable.

28. (New) The network of claim 23, wherein the first node includes a switch and a power control coupled to the switch, wherein the power control is configured to control provision of said power from the power supply to the second portion of the cable based on commands received from the switch.

29. (New) The network of claim 28, wherein the first node includes a power bus configured to receive said power from the power control and provide at least a portion of said power to said second portion of the cable, wherein the power bus is also configured to provide transient voltage protection for the second portion of the cable.

30. (New) The network of claim 23, wherein the first and second connectors and the power and data connectors have plugs and receptacles that interlock with a secure mechanical clasp

mechanism.

31. (New) The network of claim 23, wherein the first and second connectors and the power and data connectors have protective housings that shield contact surfaces from dirt, moisture and EMI.

32. (New) A system comprising:

a first means for carrying data and power; and

a second means for sending and receiving data through the first means and for sending power to a node of a network through the first means.

33. (New) A method comprising:

coupling a first connector of a cable to a data connector of a network node; and

coupling a second connector the cable to a power connector of the network node;

wherein the cable includes:

a first portion configured to carry data, wherein the first portion includes at least four unshielded twisted pairs of wires (UTPs), wherein the first connector terminates the first portion;

a second portion configured to carry power, wherein the second portion includes at least two insulated wires, wherein the second connector terminates the second portion;

a weather resistant outer sheath surrounding at least the first and second portions.

34. (New) The method of claim 33 further comprising deploying the cable underground.

35. (New) The method of claim 33 further comprising deploying the cable above the ground.

36. (New) The method of claim 33 further comprising installing a fiber optic cable within a tube of said cable.

37. (New) A method, comprising receiving data and power from a cable, wherein the cable includes:

- a first portion having at least four unshielded twisted pairs of wires (UTPs) configured to carry said data;

- a first connector that terminates the first portion;

- a second portion having at least two insulated wires configured to carry said power;

- a second connector that terminates the second portion; and

- a weather resistant outer sheath surrounding at least the first and second portions.

38. (New) The method of claim 37, wherein the first and second connectors maintain adequate physical and electrical contact over a range of operationally harsh environmental conditions.

39. (New) The method according to claim 37 further comprising:

- operating physical layer transceivers at one or more clock rates that are substantially less than a design-specified clock rate over unshielded twisting-wire pairs of the first portion in full duplex switched packet transmission mode.